

Set your goal: make the first NeoPixel red

Plan: change the color to (75,0,0)

Do:

```
#include <Adafruit_NeoPixel.h>
#define PIN PIN_NEOPIXEL
#define NUMPIXELS 10
```

```
Adafruit_NeoPixel pixels(NUMPIXELS, PIN, NEO_GRB +
NEO_KHZ800);
int DELAYVAL = 500;
```

```
void setup() {
  pixels.begin();
}
```

```
void loop() {
  pixels.setPixelColor(9, pixels.Color(75, 0, 0)); // set the
color
  pixels.show(); // make them do their thing
  delay(1000); // wait a second
  pixels.clear(); // clear all NeoPixels
  pixels.show(); // make them do their thing
  delay(1000); // wait a second
}
```

Evaluate: It works!

Set your goal: make the first two NeoPixels blink (pick a color)

Plan:

Change one color to (130,109,199)

Add one line in the loop

Do:

```

#include <Adafruit_NeoPixel.h>
#define PIN PIN_NEOPIXEL
#define NUMPIXELS 10

Adafruit_NeoPixel pixels(NUMPIXELS, PIN, NEO_GRB +
NEO_KHZ800);
int DELAYVAL = 500;

void setup() {
  pixels.begin();
}

void loop() {
  pixels.setPixelColor(0, pixels.Color(130, 109, 199)); //
set the color
  pixels.setPixelColor(9, pixels.Color(130, 109, 199)); //
set the color
  pixels.show(); // make them do their thing
  delay(1000); // wait a second
  pixels.clear(); // clear all NeoPixels
  pixels.show(); // make them do their thing
  delay(1000); // wait a second
}

```

Evaluate: It works!

Set your goal: make all NeoPixels blink red

Plan: —
Change one color to (75,0,0)_
Add the code for doing it for all

Do:

```
#include <Adafruit_NeoPixel.h>
```

```

#define PIN PIN_NEOPIXEL
#define NUMPIXELS 10

Adafruit_NeoPixel pixels(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);
int DELAYVAL = 500;

void setup() {
  pixels.begin();
}

void loop() {

  for ( int i = 0; i < NUMPIXELS; i++ )
    pixels.setPixelColor(i, pixels.Color(75, 0, 0)); // set the color

  pixels.show(); // make them do their thing
  delay(1000); // wait a second
  pixels.clear(); // clear all NeoPixels
  pixels.show(); // make them do their thing
  delay(1000); // wait a second
}

```

Evaluate: It works!

Set your goal: make all NeoPixels blink red

Plan:
 Change one color to (75,0,0)
 Add the code for doing it for all
 Do

```

#include <Adafruit_NeoPixel.h>
#define PIN PIN_NEOPIXEL
#define NUMPIXELS 10

Adafruit_NeoPixel pixels(NUMPIXELS, PIN, NEO_GRB + NEO_KHZ800);
int DELAYVAL = 500;

void setup() {
  pixels.begin();
}

void loop() {

  for ( int i = 0; i < NUMPIXELS; i++ )
    pixels.setPixelColor(i, pixels.Color(225, 0, 0)); // set the color

  pixels.show(); // make them do their thing
  delay(1000); // wait a second
  pixels.clear(); // clear all NeoPixels
  pixels.show(); // make them do their thing
}

```

```
    delay(1000); // wait a second
}
```

Evaluate: _____ It works! _____

Set your goal: make the Neopixel turn on when there's less light and off when there's more.

Plan: change and switch the if structure _____

Do

```
#include <Adafruit_CircuitPlayground.h>
```

```
int lightValue;
```

```
void setup() {
  Serial.begin(9600);
  CircuitPlayground.begin();
}
```

```
void loop() {
  lightValue = CircuitPlayground.lightSensor();
  Serial.print("Light Sensor: ");
  Serial.println(lightValue);

  // if there is very little light
  if ( lightValue < 20 )
    // turn on all neopixels
    CircuitPlayground.setPixelColor(0, 255, 0, 0);
  else
    // otherwise, turn off
    CircuitPlayground.clearPixels();
  delay(100);
}
```

Evaluate: It works!

Set your goal: instead of turning red when there's less light, make the NeoPixel turn purple

Plan: change the color to (0,204,153,255)

Do

```
#include <Adafruit_CircuitPlayground.h>

int lightValue;

void setup() {
  Serial.begin(9600);
  CircuitPlayground.begin();
}

void loop() {
  lightValue = CircuitPlayground.lightSensor();
  Serial.print("Light Sensor: ");
  Serial.println(lightValue);

  // if there is very little light
  if ( lightValue < 20 )
    // turn on all neopixels to blue
    CircuitPlayground.setPixelColor(0, 204,155,255);
  else
    // otherwise, turn off
    CircuitPlayground.clearPixels();
  delay(100);
}
```

Evaluate: It works!

Set your goal: [make ALL the NeoPixels turn on when it's dark and off when it's light.](#)

Do

```
#include <Adafruit_CircuitPlayground.h>

int lightValue;

void setup() {
  Serial.begin(9600);
  CircuitPlayground.begin();
}

void loop() {
  lightValue = CircuitPlayground.lightSensor();
  Serial.print("Light Sensor: ");
  Serial.println(lightValue);

  // if there is very little light
  if ( lightValue < 20 )
    // turn on all neopixels
    for ( int i = 0; i < NUMPIXELS; i++ )
      pixels.setPixelColor(i, pixels.Color(204,155,255));
  else
    // otherwise, turn off
    CircuitPlayground.clearPixels();
  delay(100);
}
```

Evaluate: [_It doesn't work, as the circuitPlayground conflict with the first package_____](#)

Revise:

```
#include <Adafruit_CircuitPlayground.h>

int lightValue;

void setup() {
  Serial.begin(9600);
  CircuitPlayground.begin();
}
```

```
void loop() {
  lightValue = CircuitPlayground.lightSensor();
  Serial.print("Light Sensor: ");
  Serial.println(lightValue);

  // if there is very little light
  if ( lightValue < 20 )
    // turn on all neopixels
    for ( int i = 0; i < 10; i++ )
      // otherwise, make the first one red
      CircuitPlayground.setPixelColor(i, 204, 155, 255);
  // pixels.setPixelColor(i, pixels.Color(204,155,255));
  else
    // otherwise, turn off
    CircuitPlayground.clearPixels();
  delay(100);
}
```

Evaluate: [_It works!](#)